

Activity 13

Creating the Future



Duration	2 1/4 class periods
Grade Level	7-12
Key Terms/ Concepts	Hazardous waste Superfund
Suggested Subjects	English Drama Journalism Life Science Social Studies Creative Writing

Purpose

This activity lets students create and write scenarios for the future related to hazardous waste pollution. The activity calls on students to describe their scenarios using one of a variety of formats—for example, a newspaper opinion/editorial article, a short story, a play, a poem.

Background

The United States and countries throughout the world are dealing with pollution problems from the past. Since Europeans came to this country, we have used natural resources as if they were inexhaustible. Early settlers cleared the forests to make way for towns and farms as they pushed from the east to the south and midwest and on to the west. The trees provided logs for building homes and heating them. The forests and rivers provided food. The skins of animals who lived in the forests provided materials for warm clothing. As more people came to North America, the use of natural resources increased.

Increases in population create more demand for goods and services. To meet these demands, industry needs more raw materials. Some of these materials, like cotton, rubber, and wood, are renewable, if managed correctly. Once they are harvested, a new crop can be planted. Some materials, however, like the fossil fuels used to produce energy, are not renewable. The Earth contains a fixed amount. The technology we developed made it possible for industry to use raw materials at a much greater rate than ever before, frequently faster than even the renewable resources could be replaced.



Technological progress and population growth have contributed to the production of **hazardous waste** that pollutes the land, air, and water. Hazardous waste comes from a wide variety of sources, and from both present and past activities. It most often is a by-product of manufacturing processes. Some of it comes from our homes as well, when we do not dispose of hazardous substances properly. The waste is hazardous because it contains chemicals that can have harmful effects on our health or the health of plants and animals (See *Fact Flash 1: Hazardous Substances and Hazardous Waste*).

Years ago, before we understood the dangers of hazardous waste, there were no laws controlling waste disposal. Eventually, thousands of uncontrolled or abandoned hazardous waste sites were created at manufacturing facilities, harbors, processing plants, landfills, and many other kinds of places. Congress created the Superfund Program to investigate and clean up hazardous waste sites nationwide.

Fact Flash 2: The Superfund Cleanup Program, provides a good overview of what EPA is trying to accomplish with the Superfund program.

To help prepare your students for this activity, use *Warm-Up 1: Defining Hazardous Waste* and *Warm-Up 5: Hazardous Waste Issues in the News*. You can perform the entire Warm-Up or simply review the main points covered in it. As a follow-up, have your students complete *Activity 5: How Hazardous Substances Affect People*.

Preparation

1. Gather the following materials:

- Copies for each student of:
Fact Flash 1: Hazardous Substances and Hazardous Waste
Fact Flash 2: The Superfund Cleanup Program
- Several copies (which students can share) of the Suggested Reading list at the end of the Haz-Ed materials.



Procedure

Class #1

1. List the following questions on the chalkboard:

What if there were no Superfund Program?

What would you do if there was no more landfill capacity?

What if there was no control over hazardous waste?

What if there was no hazardous waste?

2. Explain to students that they are to write a response to one of the questions on the chalkboard. Offer students the option to respond by writing a newspaper opinion/editorial article, a short story, a play, or a poem. Each should choose the format that best conveys his or her ideas.
3. Distribute *Fact Flash 1: Hazardous Substances and Hazardous Waste*, and *Fact Flash 2: The Superfund Cleanup Program*. Suggest that students also consult some of the books listed in the Suggested Reading list and other Fact Flashes in the Haz-Ed materials as background for this assignment.
4. Explain that students will be asked to share what they write with the class at a follow-up session (specify a date, but allow several days for research and preparation).

Class #2

1. Ask students to share what they wrote with the class. Have students compare and discuss the ideas presented. Are some students' ideas similar? If not, what are the differences? Did the materials they prepared suggest things we should be doing now to ensure a better future? Do some suggest more long-term things we should do—for example, 5 years or 10 years from now? Do students see a role for the government in shaping the future environment? Why or why not?



Extensions (Optional)

- Invite students from a different class to prepare materials based on these questions. Have them share their ideas in a school assembly as part of an Earth Day (spring) or Arbor Day (fall) commemoration or as part of another environmental observance.
- Have students send their essays, artwork, poems and so forth to a local newspaper and explore getting them published.